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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MUI, GARY	
ART UNIT	PAPER NUMBER
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/642,434	CHIEN-HSIN, LEE	
	Examiner	Art Unit	
	Gary Mui	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 3, 6, 8 – 20, and 24 are objected to under 37 CFR 1.75 because of the following informalities:

For claim 3 line 2, the occurrence of "a shared resource of the data paths" seems to refer back to "a shared resource of the data paths" previously recited in claim 1, if this is true, it is suggested to the applicant to change "a shared resource of the data paths" to --the shared resource of the data paths--. Similar problem exists for claims 10, 17, and 24.

For claim 6 line 2, the occurrence of "the order" is the first occurrence, it is suggested to the applicant to change "the order" to --an order--. Similar problem exists for claims 13, 20, and 27.

For claim 8 line 2, it is suggested to the applicant to insert the phrase --computer executable-- in front of the word "instructions". Similar problem exists for claim 15 line 6.

For claim 9 line 1, it is suggested to the applicant to insert the phrase --a computer executable-- in front of the word "instruction". Similar problem exists for claims 10 – 14 and 16 – 20.

Also for claim 9 line 1, the occurrence of "a processor" seems to refer back to "a processor" previously recited in claim 8 line 2, it this is true, it is suggested to the applicant to change "a processor" to --the processor--. Similar problem exists for claims 10 – 13.

For claim 18 line 3, the occurrence of "a data packet" seems to refer to "a data packet" previously recited in claim 15 line 1, if this is true, it is suggested to the applicant to change "a data packet" to --the data packet--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4, 9 – 14, 18, and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For claim 4 line 2, the occurrence of "a shared resource" is vague and indefinite because it is not known if the applicant is referring back a shared resource of the data paths recited in claim 1 or if it is another shared resource. Similar problem exists for claims 11, 18, and 25.

For claim 9 line 1, the occurrence of "the program" is vague and indefinite because it is not known if the applicant is referring to a computer program or a computer program product recited in claim 8. Similar problem exists for claim 10 – 14.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 8 – 14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

For claims 8 – 14, the claims are directed to a computer program per se, which is a non-statutory. The claims recite a computer program with instructions but not computer

executable instructions; without computer executable instructions the program cannot be carried out to perform the functions.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1 – 5, 8 – 12, and 22 – 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Gotoh et al. (US 2003/0095551 A1).

For claims 1, 8, and 22, Gotoh et al. teaches receiving multiple types of data packets (see paragraph 0043 lines 1 – 2, received packets Pb are of type priority and non-priority), sending a first predetermined type of data packet to a first data path and a second predetermined type of data packet to a second data path (see paragraph 0043 lines 3 – 6, sending received priority packets to a priority queue, see figure 2 box 210, and non-priority packets to a non-priority queue, see figure 2 box 211), and communicating in advance the types of data packets received to an arbitrator (packet classification section) of a shared resource of the data paths (see paragraph 0044 lines 8 – 18, the source IP address are pre-registered in the packet classification section).

For claims 2, 9, and 23, Gotoh et al. teaches selecting how to handle the data packet based on the communicated types of data packets (see paragraph 0044 lines 8 – 18, the packet

classification section will handle the packets based on its IP address to see if it is of priority or of non-priority).

For claims 3, 10, and 24, Gotoh et al. teaches selecting data packets for a shared resource of the data paths based on the communicated types of data packets (see paragraph 0044 lines 8 – 19, the packet classification section will check the IP address of the packet to see if it was pre-registered or not and send it to either a priority queue or a non-priority queue).

For claims 4, 11, and 25, Gotoh et al. teaches selecting a shared resource to send a data packet based on the communicated types of data packet (see paragraph 0044 lines 8 – 19, the packet classification section will pick which queue to send the packet to based on it is a priority packet or not).

For claims 5, 12, and 26, Gotoh et al. teaches sending a third predetermined type of data packet to a third data path (see paragraph 0071, 4 – 17, see figure 5 box 221, out of band queue).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 6, 13, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gotoh et al. in view of Prabhakar et al. (US 6,351,466 B1).

For claims 6, 13, and 27, Gotoh et al. teaches all of the claimed subject matter with the exception of communicating an order that the data packets were received. Prabhakar et al. from the same field of endeavor teaches for each output state, noting the temporal order in which the packets destined for that output stare are received by the input stages; and controlling the transfer stage so that, for each output stage, the packets destined for that output stage are transferred from the input stage to that output stage in the noted order (see paragraph 2 lines 45 – 51). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to send the order of the packets as taught by Prabhakar et al. into the packet processing system of Gotoh et al. The motivation for doing this is for better reassembly of fragmented packet.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 7, 14, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gotoh et al. in view of Brown (US 7,007,071 B1).

For claims 7, 14, and 28, Gotoh et al. teaches all of the subject matter of the claimed invention with the exception of the first predetermined type of data packets are non-IP multicast packets and the second predetermined type of data packets are IP multicast packets. Brown from the same field of endeavor teaches if the data packet is an IP Multicast data packet, the data packet is stored one in shared memory (see column 6 lines 57 – 59) and the received data packet is a non-IP Multicast data packet; thus, a buffer must be allocated form the shared pool or the port reserve pool (see column 6 lines 65 – 67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have the first type be non-IP multicast packets and the second type be IP multicast packets as taught by Brown into the packet processing taught by Gotoh el al. The motivation for doing this is that by separating the two types they can be easily handled when forwarding to IP or non-IP networks.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. Claims 15 – 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gotoh et al. in view of Hooper et al. (2004/0252686 A1).

For claim 15, Gotoh et al. teaches receiving multiple types of data packets (see paragraph 0043 lines 1 – 2, received packets Pb are of type priority and non-priority), sending a first predetermined type of data packet to a first data path and a second predetermined type of data packet to a second data path (see paragraph 0043 lines 3 – 6, sending received priority packets to a priority queue, see figure 2 box 210, and non-priority packets to a non-priority queue, see figure 2 box 211), and communicating in advance the types of data packets received to an arbitrator (packet classification section) of a shared resource of the data paths (see paragraph 0044 lines 8 – 18, the source IP address are pre-registered in the packet classification section).

Gotoh et al. fails to teach at least one Ethernet MAC (Medium Access Control) device coupled to at least one of the at least one communication ports, and at least one processor having access to at least one Ethernet MAC device. Hooper et al. from the same field of endeavor teaches a network processor the hardware-based multithreaded processor interfaces to network devices such as a media access controller device e.g., a 10/100BaseT Octal MAC or a Gigabit Ethernet device coupled to communication ports or other physical layer devices (see paragraph 0014 lines 1 – 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have the MAC device and processor as taught by Hooper et al. process the packets as taught by Gotoh. The motivation for doing this is that MAC will allow for efficient transmission of packets.

For claim 16, Gotoh et al. teaches selecting how to handle the data packet based on the communicated types of data packets (see paragraph 0044 lines 8 – 18, the packet classification section will handle the packets based on its IP address to see if it is of priority or of non-priority).

For claim 17, Gotoh et al. teaches selecting data packets for a shared resource of the data paths based on the communicated types of data packets (see paragraph 0044 lines 8 – 19, the packet classification section will check the IP address of the packet to see if it was pre-registered or not and send it to either a priority queue or a non-priority queue).

For claim 18, Gotoh et al. teaches selecting a shared resource to send a data packet based on the communicated types of data packet (see paragraph 0044 lines 8 – 19, the packet

classification section will pick which queue to send the packet to based on it is a priority packet or not).

For claim 19, Gotoh et al. teaches sending a third predetermined type of data packet to a third data path (see paragraph 0071, 4 – 17, see figure 5 box 221, out of band queue).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gotoh et al. and Hooper et al. as applied to claim 15 above, and further in view of Prabhaker et al.

For claim 20, Gotoh et al. and Hooper et al. teaches all of the subject matter of the claimed invention with the exception of communicating an order that the data packets were received. Prabhakar et al. from the same field of endeavor teaches for each output state, noting the

temporal order in which the packets destined for that output stare are received by the input stages; and controlling the transfer stage so that, for each output stage, the packets destined for that output stage are transferred from the input stage to that output stage in the noted order (see paragraph 2 lines 45 – 51). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to send the order of the packets as taught by Prabhakar et al. into the packet processing system of Gotoh et al. The motivation for doing this is for better reassembly of fragmented packet.

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

20. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

21. Claim 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Gotoh et al. and Hooper et al. as applied to claim 15 above, and further in view of Brown.

For claim 21, Gotoh et al. and Hooper et al. teaches all of the subject matter of the claimed invention with the exception of the first predetermined type of data packets are non-IP multicast packets and the second predetermined type of data packets are IP multicast packets. Brown from the same field of endeavor teaches if the data packet is an IP Multicast data packet, the data packet is stored one in shared memory (see column 6 lines 57 – 59) and the received data packet is a non-IP Multicast data packet; thus, a buffer must be allocated form the shared pool or the port reserve pool (see column 6 lines 65 – 67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have the first type be non-IP multicast packets and the second type be IP multicast packets as taught by Brown into the packet processing taught by Gotoh el al. The motivation for doing this is that by separating the two types they can be easily handled when forwarding to IP or non-IP networks.

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Raisanen et al. (US 6,633,540 B1), Chidambaran et al. (US 7,058,010 B2), Clark (US 7,107,365 B1), Dell et al. (US 7,158,528 B2), Kurokawa et al. (US 2003/0043840 A1), Ohmura et al. (US 2003/0219013 A1), and Varsa et al. (US 2004/0066742 A1) are cited to show processing data packets.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary Mui whose telephone number is (571) 270-1420. The examiner can normally be reached on Mon. - Thurs. 9 - 3 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GM 03-08-2007

RICKY Q. NGO
SUPERVISORY PATENT EXAMINER